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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/598,896	06/22/2000	Jose Luis Gonzalez De Prado	Q59609	8570

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EXAMINER

MEW, KEVIN D

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/598,896

Applicant(s)

GONZALEZ DE PRADO, JOSE
LUIS

Examiner

Kevin Mew

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June, 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Drawings

1. The drawings are objected to because the drawings are lacking descriptive legends of block diagrams, especially Figures 2 and 3. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because the reference numbers referring to any element in the drawings should not be included in the abstract. All reference numbers should be removed from the abstract. The abstract of the disclosure is further objected to because the abstract should be written in a single paragraph instead of two paragraphs. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. **Claims 1-13** are objected to because of the following informalities: the word "characterised" is not the standard US English terminology used for specifying what a method or an apparatus is comprised of. The word "comprising" should be used instead.

Claims 1-5, 7-13 are objected to because of the following informalities: the reference numbers that refer to any element in the drawings should not be included in the claims. All reference numbers should be taken out of each claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-2, 6-9, 13** are rejected under 35 U.S.C. 102(b) as being anticipated by Cheng (US 5,563,883).

With respect to claims 1,8, Cheng discloses a method and an apparatus in which a multiple access radio communication system (**multiple access in a radiocommunication system**, see 5, line 8 and Figure 1, element 18) that can be adopted for a TDMA scheme (**employs TDMA**, see 6, lines 57-60) to provide dynamic signaling channel allocation (see 6, lines 54-57). Cheng discloses that the system comprises a central controller that interchanges signaling messages with a plurality of remote terminals (**interchanging signaling messages between at least one fixed unit and a set of remote units**, see 5, lines 2-3, and Figure 2). Cheng further discloses a pool of signaling channels (**signaling multiframe, current component**), provided by the central controller (**controller means**, see 7, lines 36-38 and Figure 2), are used to support signaling between the central controller and remote terminals in both directions (**signaling multiframe, being used in both directions, is formed by a predetermined number of virtual identities**, see 5, lines 12-21). In addition, Cheng discloses the number of signaling channels is less than the number of the remote

terminals (**the number of virtual identities is less than the number of remote units**, see 6, lines 26-28).

With respect to claims 2,9, Cheng discloses a signaling frame (see Figure 9) comprising a signaling action type field in which a signaling channel number is transmitted. There is no indication that the creation of this signaling channel (**virtual identity, current component**) is based on remote terminal identity. Therefore, the signaling channel identity bears no association with the remote terminal identity (**virtual identities are independent of the true identities of remote units**, see Figure 9). Cheng also discloses the central controller transmits signaling channels to a group of remote units in a downlink direction (**virtual identities broadcast from fixed unit to remote units in the downlink transmission direction**, see 7, lines 36-38 and Figure 2).

With respect to claim 6, Cheng discloses signaling channels availability is determined by the bandwidth of the signaling channel (**maximum number of virtual identities is a function of maximum duration permissible for signaling multiframe**, see 8, lines 35-39).

With respect to claim 7, Cheng discloses signaling channels (**signaling multiframe**) availability is determined by the traffic requirements (**the number of virtual identities for signaling generated is a function the level of occupancy of signaling multiframe**, see 8, lines 35-39).

With respect to claim 13, Cheng discloses signaling channels availability is determined by the bandwidth of the signaling channel (**maximum number of virtual**

identities is a function of maximum duration permissible for signaling multiframe, see lines 35-39) and traffic requirements **(the number of virtual identities for signaling generated is a function the level of occupancy of signaling multiframe,** see 8, lines 35-39).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 3-5,10-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of Grauel et al (US 4,573,206).

With respect to claims 3,10, Cheng discloses all the aspects of the claimed invention as set forth in the 102(b) rejection of claims 1-2, 6-9, and 13 above, except fails to disclose that a remote terminal records the predetermined number of virtual identities. However, Grauel discloses a radio transmission system (see 2, line 66) in which a mobile radio station with a control means (see Figure 1) would run a search for the control (signaling) channel with the best signal-to-noise ratio (see 3, lines 39-42) and stores the channel number of this channel. This would indicate that the remote terminal comprises a piece of memory to store the available signaling channels (**remote unit records the predetermined number of virtual identities for signaling**).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the remote terminal of Cheng such that the remote

terminal would record the predetermined number of virtual identities for signaling such as the mobile radio station taught by Grauel. Having the remote terminal store the predetermined number of signaling channels in memory can modify the mobile terminal of Cheng. The motivation to do so is to record each available signaling channel number because it would allow remote terminal to select a particular signaling channel to use from the pool of available signaling channels.

With respect to claims 4,11, Cheng further fails to disclose that a remote terminal selects a virtual identity when it transmits a signaling message. However, Grauel discloses a radio transmission system (see 2, line 66) in which a mobile radio station with a control means (see Figure 1) would run a search for the control channel (signaling frame) with the best signal-to-noise ratio and to allocate itself to the control channel (**remote unit selects a virtual identity for signaling**, see 3, lines 39-42, and 7, lines 12-15). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the remote terminal of Cheng such that the remote terminal would select a virtual identity for signaling such as the mobile radio station taught by Grauel. Having the combination switching circuit to create a control signal for channel allocation can modify the mobile terminal of Cheng. The motivation to do so is to select a signaling channel because it would allow remote terminal to interchange signaling messages to and from the fixed unit via this dedicated signaling channel.

With respect to claims 5,12, Cheng further fails to disclose that signaling channel number would be marked as occupied in the fixed unit controller, and broadcasted by

the fixed unit. However, Grauel discloses a mobile station would do a search for a control channel (signaling frame) when it is ready to transmit in a radio zone. When a control channel is selected, the mobile station would store channel number of the control channel (see 3, lines 39-48). It is inherent that once a mobile station selects a channel number, the base station would know that particular signaling channel is being occupied, and broadcast this information via a transmission channel to all mobile units so that other mobile stations can skip this signaling channel while searching for an available signaling channel (**virtual identity marked as occupied and is broadcast by means of pilot channel**). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the fixed unit controller of Cheng such that the fixed unit would mark the signaling channel as occupied such as the base station taught by Grauel. Having the fixed unit controller monitor signaling channel status and broadcast this status information to all remote units can modify the fixed unit of Cheng. The motivation to do so is to mark the signaling channel as used because it would reduce the time it takes to search for an available signaling channel.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to signaling channel assignment in a multiple access radio communication system:

US Patent 5,644,576 to Bauchot et al.

US Patent 5,959,999 to An

US Patent 5,640,395 to Hamalainen

US Patent 5,598,417 to Crisler et al.

US Patent 6,240,079 to Hamalainen et al.

US Patent 6,424,645 to Kawabata et al.


US Patent 6,477,151 to Oksala

US Patent 6,041,238 to Tanoue

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 703-305-5300. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.


RICKY NGO
PRIMARY EXAMINER